



#### CUSTOMER STORY

# Granarolo

Improving Promotional Forecasting through Machine Learning

## Challenges

Granarolo required optimized inventory management and complete visibility into demand, distribution and production in an environment characterized by short shelf life and strong promotional pressures.

## Industry

- Consumer Goods

## Solution

- Demand Forecasting & Planning
- Promotions Management
- Inventory Optimization
- Replenishment

## Results

- Forecast reliability increased by 5pp
- Inventory levels reduced by more than 50%
- Reduced delivery time by 50% minimizing obsolescence

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## Project & Objectives

The dairy market is characterized by short shelf life products and strong promotional pressures. For instance, Granarolo runs thousands of promotions annually, producing 34,000 item–promotion forecasting combinations and causing demand peaks up to 30 times baseline sales. This environment requires optimized inventory management and the ability to provide immediate response times.

Granarolo had grown in recent years, mainly through a number of acquisitions, which resulted in a significant increase in the number of products to manage. Each product had a different set of logistics, requiring Granarolo to reorganize its network and processes. At first, management opted to gradually centralize and rationalize facilities and operations, including transport facilities previously operated autonomously at the local level.

However, Granarolo's competitive advantage comes from having full control of its supply chain and production network, and a commitment to quality manufacturing and process innovation. The complexity of its planning scenario and the number of products to manage (more than 1200, of which about 200 are milk) called for a complete process overhaul in order to achieve visibility into demand, distribution and production. In response, Granarolo decided to introduce an innovative and very reliable demand planning process, which would increase the point-of-sale residual shelf life and reduce transportation costs incurred from having to make urgent deliveries.

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## Day to Day

Granarolo's distribution network has eight production plants, six logistic platforms, 35 transit depots holding inventory, a large fleet of refrigerated vehicles and about 750 Granarolo merchandisers servicing daily sales. In addition, a network of 100 wholesale distributors covers other local markets. The demand planning process includes collecting information from these field operations, including promotions, assortments and seasonality to define a demand plan which translates dynamically into production and distribution plans.

Granarolo manages this process with ToolsGroup's SO99+, which is capable of creating a highly reliable demand plan for perishable products. It also identifies possible deviations from the plan in a timely manner, and optimizes the inventory in order to maximize customer service levels, while complying with all logistical constraints.

To manage the high pressure promotions and correctly estimate peak demand, Granarolo adopted ToolsGroup's innovative Promotions Forecasting, which uses machine learning technology to translate historical data into reliable estimates of future promotions. On the basis of past promotions, ToolsGroup Promotions Forecasting automatically generates proposals consistent with promotional peaks. The system proposes dynamic safety stock levels that take each product class' forecast accuracy and store replenishment frequency into account so Granarolo can maintain high service levels in the face of changing demand.

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## Results & Benefits

Granarolo brought its average forecast reliability from 80 to 85 percent, with a peak of about 95 percent for fresh milk and cream and 88 percent for yogurt and dessert. Inventory levels were

reduced by more than 50 percent, cutting capital and lead time in half. By reducing delivery time by 50 percent, Granarolo also significantly increased product freshness and minimized obsolescence. In addition, Granarolo has increased customer service levels, improved sales and reduced transportation costs.

Finally, ToolsGroup's software is now used for planning and inventory optimization across the strategic, tactical and operational levels of the business. Granarolo is a rapidly growing company in an industry that typically sees no major expansions. Since growth is partly due to acquisitions and geographic expansion, causing frequent changes in the structure of the distribution network, SO99+ proved to be a fundamental tool to support decision-making at the strategic, tactical and operational levels, all with the same base data.

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